Internet Society Open Letter on Transfer of Internet Protocol Addresses

18th April 2011 - The Internet Society recognizes that the final allocations of Internet Protocol version 4 (IPv4) addresses from the Internet Assigned Numbers Authority (IANA) to the Regional Internet Registries (RIRs) was a significant milestone in the development of the Internet. This milestone heralds the end of the era in which never-previously-used IPv4 addresses are available for allocation[1]. Nonetheless, IPv4 addresses will remain critical to the continued functioning of the Internet for years or decades to come, and network operators will avail themselves of previously-used blocks of IPv4 addresses. For the continued smooth operation of the Internet, including its security and stability, it is imperative that these re-used addresses are administered responsibly. The Internet Society therefore recognizes and supports the work of the five Regional Internet Registry (RIR) open policy forums on the matters of administration and management of IP addresses in the case of transfers.

RIR open policies are developed to provide the full range of administrative responsibilities for these key Internet resources. As such, they are applicable to address space that has been transferred from elsewhere, as much as to newly allocated space. If addresses are transferred outside the scope of the processes defined by the RIRs, it could negatively impact Internet routing table sizes as transfers cause de-aggregation of address blocks. Also, accurate and timely registration of administrative information pertaining to address block use is important for facilitating resolution of operational and security issues. Anonymous address space is a target for abuse and spoofing (e.g., for botnets), and resolving who has the right to use (route) a particular address block is impossible without proper administration. For these reasons, the RIRs have developed policies for handling the registration of legacy address space and the appropriate way to transfer address blocks – see the Background appendix below for pointers to policies in all five regions.

As unallocated IPv4 address space becomes scarce, as it has in the Asia Pacific region already,[2] the Internet Society notes there will be increasing interest in acquiring rights to previously-allocated IPv4 address space[3].
The Internet Society is in full agreement with the RIR policy positions that any transfer, whether between going concerns or from the estate of a defunct company, should be performed in ways consistent with the relevant RIR policies. We therefore urge all such parties to contact the relevant RIR and comply with registration practices and allocation policies (pointers provided below). It is our understanding that relevant policies should not pose a material impediment to transfer and use of IPv4 address space in most cases.

The Internet Society is committed to, and has many activities aimed at supporting the deployment of IPv4’s successor, IPv6 [4] as the only viable path forward for the Internet. However, IPv4 is still very much the cornerstone of the Internet of today, and all stakeholders must do their part to ensure that it is managed responsibly and consistently with the policies established in the open processes of the Internet community.

Lynn St.Amour

Internet Society President and CEO

**Background** [5]

Today there are five Regional Internet Registries (RIRs) with responsibility for Internet number resource distribution within their service region. They, and their resource transfer policies, are as follows:

- **AfriNIC** – Africa  
  [http://www.afrinic.net/docs/policies/AFPUB-2005-v4-001.htm](http://www.afrinic.net/docs/policies/AFPUB-2005-v4-001.htm)
- **APNIC** – Asia-Pacific  
  [http://www.apnic.net/policy/transfer-policy](http://www.apnic.net/policy/transfer-policy)
- **ARIN** – North America & Caribbean (part)  
  [https://www.arin.net/policy/nrpm.html#eight](https://www.arin.net/policy/nrpm.html#eight)
- **LACNIC** – Central & South America & Caribbean (part)  
- **RIPE-NCC** – Europe, Middle East & Central Asia  
  [http://www.ripe.net/ripe/docs/ripe-509#—transfers-of-allocations](http://www.ripe.net/ripe/docs/ripe-509#—transfers-of-allocations)

The three primary goals of the number resource distribution function are as follows:

- Conservation: to ensure efficient use of a finite resource and to avoid service instabilities due to market distortions (such as stockpiling or other forms of manipulation);
- Aggregation: to assist in maintenance of Internet routing tables at a manageable size, by supporting techniques to ensure continued operational stability of the Internet, and;
- Registration: to provide a public registry documenting address space allocations and assignments, necessary to ensure uniqueness and provide information for Internet troubleshooting at all levels
Distributing Internet numbering resources isn’t a ‘fire-and-forget’ operation. It requires considerable associated administrative machinery and ongoing maintenance to ensure the continued smooth operation of the network. This maintenance is critically informed by the experiences of those operating the network themselves. For this reason, the bottom-up, inclusive and consensus-driven processes that today’s distributors have developed are essential to the successful development and implementation of ongoing resource allocation procedures.

The commitment between the resource distributors and the resource users is bi-directional, and resource distribution is essentially an operational engineering function that requires careful co-ordination and consensus building to succeed. Network operators have very strong incentives to partner with operationally knowledgeable organisations when obtaining numbering resources and will choose not to interconnect with networks that disregard this reality.


[3] See, for example, the Microsoft/Nortel transaction, http://www.pcmag.com/article2/0,2817,2382616,00.asp
